4. Support Early Warning Data system with links from High School districts/charters to elementary districts/charters and the early childhood data system early enough to plan interventions

Vision: [need to add]

National Drop-Out Prevention Category: Mentoring; tutoring; individualized instruction

Background:

Early intervention is key to getting students back on track for graduation. Middle school students who have multiple D's or failing grades, are chronically absent and have multiple behavioral incidents are 75% more likely to drop out of high school. Middle schools and high schools need information that shows the first signs that students are falling off track so they can intervene early. High school districts are frequently at a disadvantage in intervening early for their freshman class because they do not receive information on the incoming class with ample time to do sufficient planning. An early warning system that uses indicators based on readily accessible data can predict, during student's first year in high school, whether the students are on the right path toward eventual graduation. Research in Chicago and Philadelphia shows that just a few indicators can predict as early as the first semester of high school whether students will drop out. (Therriault, July 2008) In addition, research on dropout efforts indicate that dropout prevention programs, themselves, often serve students who otherwise would not have dropped out, and don't serve stduetns who would have dropped out. (Pinkus, August 2008)

An early warning system can be implemented at the ***high school level, middle school level, or district level***. An ideal system is tied into a ***statewide longitudinal data system***, though still useful on its own. However, a system is more effective if based on a local analysis of longitudinal data to determine more accurate predictors and interventions. (Therriault, July 2008)

The three critical data elements for a ***high school*** are ***course performance, credit accumulation, and attendance***. In Chicago, the "on-track" indicator of course performance and credit accumulation is a better predictor of graduation than student's background characteristics or middle school achievement test scores. On track students were more than 3.5 times more likely than students not on track to graduate from high school in four years. Likewise, the biggest risk factor for failing ninth grade is the number of absences during the first 30 days of high schools, and failing ninth grade is one of the most important predictors of dropping out. (Therriault, July 2008). A Los Angeles study found that academic experiences explained six times more of the difference in graduation rates than demographic characteristics. (Pinkus, August 2008) The good new is that these three indicators are key components that schools can not only track, but they can also influence and intervene.

Recommeneded ***attendance data*** is simply the nubmer of days absent or the daily attendance rate at regular interals, as early as the first 20 days of the freshman year and each quarter thereafter. Research suggests that missing more than 10% of instruction at a time is cause for concern, which translates to about 10 days of school per sememster. (Therriault, July 2008)

Recomemnded ***course performance and credit accumulation*** data include:

- Total number of Fs in all courses
- Total number of Fs in core academic courses
- Freshman grade point averages each quarter/semester/year
- Credits earned, preferably compared to number of credits needed to matriculate on time to the next grade level – i.e. and "on-track" indicator

(Therriault, July 2008)

Research also suggests that students' exhibit early warning signs in ***middle schools*** or earlier. Data on academic performance and educational engagement in middle grades could include:

- Earning an F in English or math during the transition year of 6^{th} or 8^{th} grade
- Low attendance (80% or lower) during sixth or eights grade
- Earning an F for classroom behavior during sixth grade
- Low grades or attendance in fourth grade
- Decline in grades from grade five to six
- Decline in GPA from grade 8 to 9
- Begin retained in any grade
- Drop in attendance in grade six

(Therriault, July 2008)

The transition year to middle school is a good starting point for identifying local risk factors, though may require a more district-early-warning-system focus, rather than a school-level focus.

Districts are well positioned to initiate a strong early warning data system by starting with a retrospective, longitudinal analysis of their graduation and drop out patterns, and should start with exploring the academic, engagement, social and individual characteristics most strongly correlated with whether past students graduated or not. Once that step is complete, a district can coordinate with school level early warning systems to track students across schools over time and should include the 12 ARRA data quality elements, as well as behavior or discipline information. (Therriault, July 2008)

In addition to early warning indicators, an early warning data system should contain up to date information on the ***programs provided to individual students***. This information will allow school staff to target specifically appropriate interventions to students who need them and to monitor their progress in response to those interventions. The power of early–warning indicators lies in the willingness and capacity of school leaders and educators to transform insightful data into strategic decision making that leads to improved student outcomes. (Pinkus, August 2008)

There are two levels of interventions which the data from an early warning data system might be used for: ***comprehensive school-wide programs that aim to get student re-engaged in school*** – as long as they are connected to a core instructional program; and those that ***target individual student needs***. There are many ***classroom strategies*** educators can use to increase student's course success, including improving and personalizing instruction, providing extra learning time, striking a balance between relevance and rigor,

and providing support for students who are struggling with skills or content. For example, The Northwest Regional Education Laboratory suggests four interventions to address attendance issues that are uncovered with an early warning data system: sound and reasonable attendance policies with consequences for missing school; early interventions; targeted interventions for students with chronic attendance problems; and strategies to increase engagement and personalization with students and families that can affect attendance rates. In Silent Epidemic, dropouts themselves say that missing too many days of schools and having trouble catching up was the second most reported reason for dropping out. (Pinkus, August 2008)

Tiered interventions have been successful in some states, creating three "tiers" of students for different intensiites of intervention. A "middle" teir group might benefit from daily attendance check-ins, behaviour checklists brought to each class, or extra-help courses. More challenged stduents may require individual couseling or tutoring, behaviour contracts, or the invovlemnt of social workers or psychologists. Another distinct group of "over-age and under-credited" students may need comprehsenive alternativ schools, programs targeted to meet the needs of puplations with alternative learning styles or schedules, integrated services and blended academic and career programs. (Pinkus, August 2008)

One caution from Louisiana: If too many students are identified in the "at-risk" category, it reduces the sense of urgency for educators. If the list is too long, the educators won't be able or willing to carry the burden of intervention. As a result, limited resources may end up spread too thin to truly impact the neediest students. (Pinkus, August 2008)

Though the most useful system will be integrated into a school, district, or state's current data system, The National High School Center created a free tool for high schools and middle schools to use, which is now housed at the American Institutes for Research, www.earlywarnignsystems.rog/servcies/resources-tools. The large publishing company, Pearson, also has a product that schools can purchase.

Arizona Context:

The research described above was also carried out in Arizona by a graduate student at the University of Arizona. The variables of ninth grade attendance, ninth grade English and Math grades, and GPA were the strongest predictors of student dropouts. (C.Shealy, 2011)

Information on which districts use some form of early warning system is not readily available.

Mesa and Scottsdale have similar programs, looking at 7th and 8th grade risk factors. In addition, many charter schools have data –driven drop out recovery programs, addressing needs for over-age under-credited students.

In Peoria Unified School District, Against All Odds Scholarships uses this data to award high school seniors who have overcome significant adversity to complete their high school coursework and plan to continue on with post-secondary education. These remarkable young men and women face health issues, language barriers, adult responsibilities, family tragedies, and/or financial hardship with courage and fortitude. A maximum of ten $1,000 scholarships are available and will be awarded to at least one qualifying senior student from each Peoria Unified high school.

Phoenix Union High School District, Phoenix Elementary School District and Valley of the Sun United Way are partnering to pilot the use of a technology system that will provide early warning indicator data to school and district staff for the purpose of identifying students and student trends at the initial signs of falling off track, imbedding use of the data to plan and manage student interventions by individual staff as well as by teacher/support service teams and to support planning of systemic efforts to address significant trends. As it relates to the early warning indicator component of the partnership, the partners are focused on completing the development of an early warning system technology, increasing data sharing between districts, inclusive of mutually agreed upon data collected by the technology and improving the practice of school and district staff to use timely student data to drive student interventions in a more collective and comprehensive manner. VSUW intends to scale up to the full district, but is working school by school as a pilot to inform possible next steps. One key finding – there is very poor communication between the feeder schools and the high schools on transfer of information that could lead to early identification of drop out risks.

The partnership plans to complete the build of the system and begin providing professional development to use the system on four campuses Fall 2013. Professional development will be provided in a train the trainer model and each campus will build practices around frequently using the data to support student intervention planning by teams of school staff. John Hopkins University Everyone Graduation Center, an expert in early warning indicators will provide technical assistance to the partnership in developing practices and tracking progress.

In Arizona, the early childhood community is also getting involved in an early warning system for early literacy – creating a pipeline of information and support for students most likely to leave high school before they are college and career ready.

Available Actions:

1) Identify schools or districts that excel at
    a) Data on course grades, credit accumulation and attendance
    b) Data on program participation
    c) Analysis of school wide trends and drop-out prevention programs
    d) Targeted assistance for students
    e) Transform data into tactical/strategic decisions
2) Ensure the data system under development includes the elements described above, and calculates absenteeism, course performance and support services in a manner that enhances transparency in these areas
3) Add success with at risk students as an element of A-F letter grade system
4) Support/advocate efforts for K-8 districts to release holistic student information to high school districts early in the semester preceding freshman year
5) Clarify true FRPA relevance and overcome challenges to local board interpretation

6) Conduct district level research recommended by NHSC
   a) Follow a cohort throughout their high school career plus one year after
   b) Include demographic, academic, and student engagement (i.e. Attendance and discipline) data
   c) Investigate past and recent dropout to identify the "highest yield" indicators in the district
      - What percentage of students with each risk factor (or combination) dropped out?
      - What percentage of student with each risk factor (or combination) graduated in four or five years?
      - What percentage of student without each risk factor (or combination) dropped out?
      - What percentage of student without each risk factor (or combination) graduated in four or five years?
   d) Post data analysis, support training school-level staff on data collection and analysis
7) Use aggregate on-track rates or a promoting power index to identify high schools and districts with high proportions of students at risk of dropping out, i.e. dropout factories, to prioritize allocation of resources to high schools and districts with the most severe problems and support the implementation of dropout prevention strategies and other interventions with evidence of effectiveness.